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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,782	08/02/2004	Paul John Freitas		4781
45977	7590	11/21/2005		
PAUL J. FREITAS 942 PELLEGRINI STREET SANTA CRUZ, CA 95062			EXAMINER QIN, JIANCHUN	
			ART UNIT 2837	PAPER NUMBER

DATE MAILED: 11/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/710,782

Applicant(s)

FREITAS, PAUL JOHN

Examiner

Jianchun Qin

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08/02/04 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Specification

1. The amendment filed 09/29/05 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the "soundboard", the "stretched strings", the "banjo membrane", the "hollow guitar body", the "hollow violin, viola, cello, or bass body", the "transistorized circuitry", and the "vacuum tube circuitry", recited in the amended specification and/or newly added claims 21, 22, 23, 26, 27, 28, 30 and 31.

Applicant is required to cancel the new matter in the reply to this Office Action.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, features, such as "stretched strings" in claim 21, "banjo membrane" in claim 26, "a hollow guitar body" in claim 27, "vacuum tube circuitry", must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Art Unit: 2837

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 21, 22, 23, 26, 27, 28, 30 and 31 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, the terms "soundboard", "stretched strings", "banjo membrane", "hollow guitar body", "hollow violin, viola, cello, or bass body", "transistorized circuitry", and "vacuum tube circuitry" are new matter to the instant application, since original specification of the claimed invention does not support these new limitations.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 19, 20, 23, 24, 25 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Duncan et al. (U.S. Pat. No. 4852443).

Regarding claim 19, Duncan et al. disclose an electric musical instrument transducer comprising: a) one or more air gapped parallel plate variable capacitors,

Art Unit: 2837

where one of the plates of said variable capacitors is an electrically conducting, non-vibrating surface mounted close to a vibrating surface on a musical instrument that emits sound when said instrument is played, while the other of said plates is an electrically conducting surface that comprises, covers, or is embedded within said vibrating surface (Figs. 1 and 4a-4c; col. 2, lines 44-68), combined with b) an electric circuit that applies a voltage difference to said variable capacitors, detects time-varying differences in voltage across said variable capacitors caused by vibrations in said vibrating surfaces, and converts said voltage differences into signals transmissible to and usable by audio recording and amplification equipment, where said signals at a given time correspond to the exact vibrational state induced in said vibrating surfaces of said musical instrument at that time by the player of said musical instrument (col. 5, lines 23-37 and col. 6, lines 33-62).

Regarding claim 20, Duncan et al. further discloses: said variable capacitors vibrate in response to direct mechanical stimulation of said vibrating surfaces by the player of said instrument (col. 3, lines 36-50).

Regarding claim 23, Duncan et al. teach: one of said variable capacitor plates comprises, covers, or is embedded within a part of a musical instrument that function as a soundboard (Figs. 4a-4c; col. 2, lines 4-16 and lines 44-68; col. 4, lines 18-35).

Regarding claim 24, the disclosure of Duncan et al. further includes: variable capacitor plate that comprises, covers, or is embedded within a drumhead (Figs. 4a-4c; col. 2, lines 4-16 and lines 44-68; col. 4, lines 18-35).

Regarding claim 25, the claimed invention is merely a recitation of the intended use (col. 2, lines 4-16 and lines 44-68; col. 4, lines 18-35). It has been held that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Regarding claim 29, Duncan et al. further teach: said one or more of said variable capacitor plates comprises a woven or mesh-like material (col. 2, lines 44-57).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 21, 22 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duncan et al. (U.S. Pat. No. 4852443) in view of Ashworth-Jones (U.S. Pat. No. 4750397).

Duncan et al. disclose the musical instrument transducer that includes the subject matter discussed above.

Duncan et al. do not mention expressly: said variable capacitors vibrate in response to vibrations in stretched strings mechanically connected to said vibrating surface, where said string vibrations are induced by the player of said instrument; one of said variable capacitor plates comprises, covers, or is embedded within a soundboard; one of said variable capacitor plates comprises, covers, or is embedded within a banjo membrane; one of said variable capacitor plates comprises, covers, or is embedded within the solid portions of a hollow guitar body; one of said variable capacitor plates comprises, covers, or is embedded within the solid portions of a hollow violin viola, cello, or bass body.

Ashworth-Jones disclose a stringed musical instrument (Fig. 2), including: said variable capacitors vibrate in response to vibrations in stretched strings mechanically connected to said vibrating surface, where said string vibrations are induced by the player of said instrument (Fig. 3, cols. 6-7, lines 34-4); one of said variable capacitor plates comprises, covers, or is embedded within a soundboard (Fig. 3, cols. 6-7, lines 34-4); one of said variable capacitor plates comprises, covers, or is embedded within a banjo membrane (Fig. 3, cols. 6-7, lines 34-4); one of said variable capacitor plates comprises, covers, or is embedded within the solid portions of a hollow guitar body (Fig. 3, cols. 6-7, lines 34-4); and one of said variable capacitor plates comprises, covers, or is embedded within the solid portions of a hollow violin viola, cello, or bass body (Fig. 3, cols. 6-7, lines 34-4).

In view of the teaching of Ashworth-Jones, one having ordinary skill in the art at the time the invention was made would be able to apply the sensing technique as taught by Duncan et al. to a stringed musical instrument to generate sound signal in response to vibrations in stretched strings. The mere application of a known method to a specific instances by those skilled in the art would have been obvious.

Prior Art Citations

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1) Green (U.S. Pat. No. 3509264) is entitled "Electric drum or other percussion instrument".

2) Mori et al. (U. S. Pat. No. 5633473) is entitled "Electronic musical instrument".

3) Bozzio (U. S. Pat. No. 4700602) is entitled "Electronic drum".

4) Yoshino (U.S. Pub. No. 20040118269) is entitled "Electronic percussion instrument and vibration detection apparatus".

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR

Art Unit: 2837

1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Response to Arguments

11. Applicant's arguments received 09/29/05 with respect to claims 19-31 have been considered but are moot in view of the new ground(s) of rejection.

Claims 19-31 are rejected as new prior art reference (U.S. Pat. No. 4852443 to Duncan et al.) has been found to teach the use of an air gapped parallel plate variable capacitor, or any other non-magnetic circuit element, for signal generation.

Contact Information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jianchun Qin whose telephone number is (571) 272-5981. The examiner can normally be reached on 8:00am - 5:30pm.

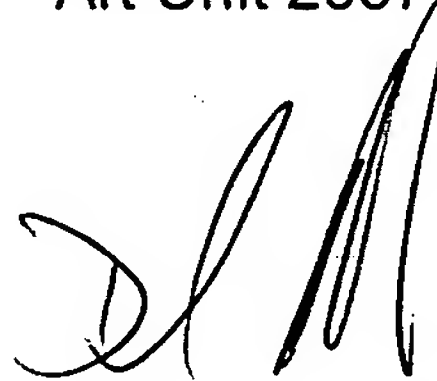
Art Unit: 2837

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on (571) 272-2107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JQ 
November 2, 2005

Jianchun Qin
Examiner
Art Unit 2837



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